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NOTE ON THE TREATMENT

OF

CHRONIC DACRYO-CYSTITIS BY EXTIRPATION OF THE LACRIMAL SAC.

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Cases of chronic inflammation of the lacrimal sac are often difficult and always troublesome to deal with. In the more common instances, in which the condition is secondary to partial obstruction of the nasal duct, treatment such as dilatation of the constricted canal by probing or the insertion of a style, and the application to the lacrimal sac, by syringing, of antiseptic solutions, *if these measures can be regularly and persistently carried out*, will in the majority of cases lead to cure, or at all events to marked amelioration of the symptoms. In a certain proportion of cases, however, such prolonged treatment is impracticable for various reasons. In young children and some timorous adults the use of lacrimal probes cannot be undertaken without the aid of a general anæsthetic,[1] and there are grave objections to the administration of a general anæsthetic, say twice a week for many weeks. Again, among hospital patients the

[1] The application of cocaine does not even diminish the pain of forcible dilatation of a strictured nasal duct.

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expense and loss of time involved in coming every second or third day, perhaps from a considerable distance, precludes treatment being carried out with that regularity which is essential to success.

Hence it comes about that in a proportion of cases, how large I do not know, some method of treatment is called for which will give a reasonable chance of rapid and permanent relief.

The destruction or removal of the diseased lacrimal sac as applicable to such cases is the subject of this note.

I have heard it said, and I believe the opinion is held by some, that any operation for the removal of the lacrimal sac is a reproach to ophthalmic surgery, and should never be undertaken. This assertion may be true in theory; in practice, under our present conditions and with our present knowledge, I am sure it cannot be adhered to. Up to a certain point I am wholly in agreement with those who condemn this operative procedure. I do not think it should be adopted unless ordinary methods of treatment cannot be employed, or until they have failed; but then I think it would be wanton adherence to theory to decline to give trial to more radical measures.

The cases to which removal of the lacrimal sac is especially applicable fall naturally into two groups:

(1) Cases of chronic dacryo-cystitis (particularly in children) with or without complete obstruction of the nasal duct.

(2) Cases of congenital absence, impermeable stricture, or bony occlusion of the nasal duct, in which there is chronic catarrh of the lacrimal sac.[1]

Apart from the constant overflow of tears, which is so troublesome a symptom in all forms of lacrimal obstruction, the abundant purulent or muco-purulent secretion from the lacrimal sac in dacryo-cystitis is a standing menace to the eye. The channel to the nasal cavity being obstructed, this secretion regurgitates through the canaliculi to the con-

[1] Dr. K. Scott (Cairo) has recently ('Annals of Ophthalmology,' July, 1897) reported a case of complete obliteration of the nasal duct successfully treated by drilling a new canal by means of a dental drill. This procedure might, I think, prove of great value in some cases of bony occlusion of the nasal duct.

junctival sac, where it sets up and keeps up a muco-purulent form of conjunctivitis. If, under these conditions, the corneal epithelium be damaged accidentally or by disease, the wound almost certainly becomes infected, and a destructive suppurative keratitis results.

Any operative procedure adopted for the removal of the source of infective material should have as its essential feature the extirpation of the lacrimal sac in its entirety, or the destruction *in situ* of the whole of its lining membrane. If this be only partially effected, secretion from the remaining portions of mucous membrane continues, and the symptoms persist though in lesser degree.

In my earlier cases I adopted the method of destruction of the mucous membrane of the lacrimal sac by cauterisation, using a Paquelin or electric cautery; but finding this unsatisfactory, for reasons to be presently mentioned, I employed the alternative plan of extirpation of the lacrimal sac. From such experience as I have had I believe the latter procedure to be decidedly the better.

The chief reasons which led me to relinquish the former operation were (1) the difficulty, almost the impossibility of ensuring the destruction of the whole of the secreting surface, so that in some instances the operation had to be repeated; and (2) the cicatrix in the region of the sac was undesirably noticeable, especially when the cautery was applied more than once. This was due to the unintentional cauterisation of the edges of the skin incision, which it was impossible wholly to prevent. In extirpation of the lacrimal sac these difficulties can be avoided.

The technique of the operation is briefly as follows:

The lower canaliculus is divided if this has not already been done; a bent probe, or preferably a squint hook, is passed into the lacrimal sac, and its point turned forwards and made to protrude the anterior wall of the sac and the skin over it.

An oblique incision is made over the sac; its upper end should be level with or slightly above the internal palpebral ligament, and from this point it should extend downwards and outwards about 2·5 cm. (The healthy lacrimal sac in the adult measures about 15 mm. in length.)

The wall of the sac is then exposed by dissection ; it is usually much thickened, and the surrounding tissue matted and difficult to separate. Care should be taken to avoid cutting into the sac, as this decidedly increases the difficulty of removal.

The lips of the wound are held apart by small retractors and careful dissection continued round the sac ; it is, I think, easier to begin on the nasal side, where the sac lies close to the bone. Having freed the lateral attachments of the sac, its lower end where it passes into the nasal duct is cut across, and then its connections at the upper end carefully dissected away. The upper part is the most difficult to deal with, and in removing it, unless great care be taken, the skin may easily be button-holed.

The cavity, after removal of the sac, is cleansed and (usually) the skin incision united by two or three stitches. If there has been much infiltration of the tissue round the sac, and a probability of some sloughing, the lower end of the incision may be utilised for drainage purposes. I have never employed a tube or other means of drainage.

From the cosmetic point of view it is important to obtain union by first intention, and in cases in which the sac is removed this is generally attainable. The resulting scar is small, and after the lapse of some months is scarcely noticeable.

The operation does not present any serious difficulties, but the very free hæmorrhage is troublesome. The region of the lacrimal sac is so vascular, especially when there has been prolonged inflammation, that copious bleeding occurs, and interferes considerably with the dissection necessary to separate the sac from its attachments. Unfortunately this hæmorrhage cannot be adequately controlled by pressure on arterial trunks, and frequent sponging is the only means of dealing with it.

The cavity left by removal of the lacrimal sac soon fills up, but a slight hollow (as compared with the opposite side) can usually be detected on examination. In a successful case there should be no evidence of any sac or pocket in which tears or mucus may lodge.

After operation, the conjunctivitis which resulted from

the regurgitation of muco-pus into the conjunctival sac rapidly disappears. Moreover—and this is a point of importance—the epiphora which was so troublesome a symptom is greatly relieved, and in some cases, if patients' statements can be credited, is wholly cured.

I do not intend to discuss the question or try to explain why, after removal of the lacrimal sac, which is an integral part of the excretory lacrimal apparatus, there should not be constant epiphora. I am convinced of the fact that in the class of cases under discussion epiphora is very much less after operation than it was before this treatment was adopted.

I have notes of twelve cases in which the lacrimal sac has been destroyed (three cases) or removed (nine cases).[1] These extend over a period of eleven years, an indication that the proportion of cases of dacryo-cystitis in which such operative measures have seemed to me advisable is very small.

Of the twelve cases, one was operated on, under my supervision, by my house surgeon at the time, the remainder by me.

Six of the number were children under twelve. Three were between the ages of twelve and twenty. The remaining three were aged twenty-eight, twenty-nine, and thirty-nine years respectively.

Cases 1, 2, and 3 were treated by cauterisation of the lacrimal sac (through an incision in its anterior wall). In Case 1 the operation had to be repeated twelve months later, and the ultimate result was satisfactory. In nine cases the sac was removed by dissection, but in one of these (that done by my house surgeon) the extirpation was incomplete, and a second operation was performed three years later, by which a small remnant of the sac was destroyed.

Of the twelve cases, two have been operated upon within the last three months, and one of these is still under observation (April, 1898). Two of the earlier cases (one adult, one child) have been recently seen, and the results three years after operation are very satisfactory. One case, re-

[1] In all these patients the disease was limited to one side.

ferred to above, was operated upon a second time twelve months ago, and has been seen since.

The remaining seven patients I have not been able to trace. They were under observation for a few weeks after the operation, and in all the condition was satisfactory at the time when their attendance at hospital ceased.

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